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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,157	10/17/2003	Manish Mangal	2340	9209

28005 7590 06/30/2006

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KSOPHT0101-Z2100
OVERLAND PARK, KS 66251-2100

EXAMINER	
ADDY, ANTHONY S	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,157	MANGAL ET AL.	
	Examiner	Art Unit	
	Anthony S. Addy	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

2. This action is in response to applicant's request filed on March 27, 2006 for reconsideration of the finality of the rejection of the last Office action and, therefore, the finality of that action is withdrawn. Prosecution is hereby reopened. New grounds of rejections are set forth below. **Claims 1-24** are pending in the present application.

Response to Arguments

3. Applicant's arguments with respect to **claims 1-24** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-6, 8-14 and 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spinar et al., U.S. Publication Number 2002/0080816 A1 (hereinafter Spinar)** and **Gilbert et al., U.S. Patent Number 6,016,311 (hereinafter Gilbert).**

Regarding claim 1, Spinar teaches a wireless communication system adapted to provide communication services to subscriber units operating within a given coverage area (see paragraph 0043, lines 1-16, paragraph 0008, lines 1-11 and Fig. 1; where subscriber units [CPE's 110] are shown in a cell 102 which provides wireless connectivity between base station 106 and the subscriber units), wherein the system dynamically allocates radio frequency bandwidth among the subscriber units according to a bandwidth allocation algorithm (see paragraph 0096, lines 1-13 and paragraph 0161, lines 1-13), and wherein the radio frequency bandwidth is used to send voice or data traffic to the subscriber units as part of providing the communication services to the mobile stations (see paragraph 0042, lines 8-16), a method comprising: determining that a threshold number of subscriber units being provided communication services are concurrently operating in the given coverage area (see paragraph 0018, line 1 through paragraph 0019, line 25, paragraph 0156, lines 1-20 and paragraph 0164, line 1 through paragraph 0167, line 12); and responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among subscriber units (see paragraph 0161, lines 1-13).

Spinar fails to explicitly teach the subscriber units are mobile stations.

In an analogous field of endeavor, Gilbert teaches an adaptive time division duplexing method and apparatus for dynamic bandwidth allocation within a wireless communication system, wherein the subscriber units are either fixed or portable units [i.e. mobile stations] (see col. 1, lines 14-17). Furthermore, it has been held that making an old device portable or movable without producing any new and unexpected result

involves only routine skill in the art. ***In re Lindberg*, 93 USPQ 23 (CCPA 1952) [see MPEP 2144.04(v)]**.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spinar with Gilbert, wherein the subscriber units are mobile stations, in order to enable users of the subscriber units to seamlessly maintain a call no matter where located and to provide an added advantage of roaming between different communication networks.

Regarding claim 9, Spinar teaches a CDMA network adapted to provide communication services concurrently to multiple subscriber units operating within a given coverage area (see paragraph 0043, lines 1-16, paragraph 0008, lines 1-11 and Fig. 1; where subscriber units [CPE's 110] are shown in a cell 102 which provides wireless connectivity between base station 106 and the subscriber units), a method comprising: determining that a threshold number of subscriber units being provided communication services are concurrently operating in the given coverage area (see paragraph 0018, line 1 through paragraph 0019, line 25, paragraph 0156, lines 1-20 and paragraph 0164, line 1 through paragraph 0167, line 12) ; and responsively changing a bandwidth allocation algorithm, wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the subscriber units (see paragraph 0161, lines 1-13 and paragraph 0119, line 1 through paragraph 0122, line 24), and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the subscriber units as part of providing the communication services (see paragraph 0042, line 8 through paragraph 0043, line 13).

Spinar fails to explicitly teach the subscriber units are mobile stations.

In an analogous field of endeavor, Gilbert teaches an adaptive time division duplexing method and apparatus for dynamic bandwidth allocation within a wireless communication system, wherein the subscriber units are either fixed or portable units [i.e. mobile stations] (see col. 1, lines 14-17). Furthermore, it has been held that making an old device portable or movable without producing any new and unexpected result involves only routine skill in the art. ***In re Lindberg*, 93 USPQ 23 (CCPA 1952) [see MPEP 2144.04(v)]**.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spinar with Gilbert, wherein the subscriber units are mobile stations, in order to enable users of the subscriber units to seamlessly maintain a call no matter where located and to provide an added advantage of roaming between different communication networks.

Regarding claim 16, Spinar teaches a method for allocating bandwidth among subscriber units in a wireless network (see paragraph 0041, line 1 through paragraph 0042 line 16 and Fig. 1; where subscriber units [CPE's 110] are shown in a cell 102 which provides wireless connectivity between base station 106 and the subscriber units), the method comprising: determining that a number of subscriber units concurrently being provided communication services by the wireless network is below a predetermined threshold (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12); determining that an amount of voice or data traffic buffered at a base station for transmission to a subscriber

unit as part of providing the communication services is above a predetermined threshold (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12); and responsively increasing an amount of bandwidth allocated to the subscriber unit for transmitting the voice or data traffic from the base station to the subscriber unit (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12).

Spinar fails to explicitly teach the subscriber units are mobile stations.

In an analogous field of endeavor, Gilbert teaches an adaptive time division duplexing method and apparatus for dynamic bandwidth allocation within a wireless communication system, wherein the subscriber units are either fixed or portable units [i.e. mobile stations] (see col. 1, lines 14-17). Furthermore, it has been held that making an old device portable or movable without producing any new and unexpected result involves only routine skill in the art. ***In re Lindberg*, 93 USPQ 23 (CCPA 1952) [see MPEP 2144.04(v)]**.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spinar with Gilbert, wherein the subscriber units are mobile stations, in order to enable users of the subscriber units to seamlessly maintain a call no matter where located and to provide an added advantage of roaming between different communication networks.

Regarding claims 2, 10 and 17, Spinar in view of Gilbert teaches all the limitations of claims 1, 9 and 16. In addition, Spinar teaches a computer readable

medium having stored therein instructions for causing a processor to execute the method of claims 1, 9 and 16 (see paragraph 0045, lines 1-16).

Regarding claims 6 and 14, Spinar in view of Gilbert teaches all the limitations of claims 1 and 9. In addition, Spinar teaches a method, wherein responsively changing the bandwidth allocation algorithm comprises: switching the bandwidth allocation algorithm to use a first bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations within a first group of mobile stations (see paragraph 0129, lines 1-47, paragraph 0132, line 1 through paragraph 0142, line 9 and paragraph 0159, line 1 through paragraph 0161, line 13); and switching the bandwidth allocation algorithm to use a second bandwidth allocation algorithm to allocate the radio frequency bandwidth among mobile stations with a second group of mobile stations (see paragraph 0129, lines 1-47, paragraph 0132, line 1 through paragraph 0142, line 9 and paragraph 0159, line 1 through paragraph 0161, line 13).

Regarding claim 18, Spinar in view of Gilbert teaches all the limitations of claim 16. In addition, Spinar teaches a method, determining that the amount of voice or data traffic buffered at the base station for transmission to the mobile station as part of providing communication services is below the predetermined threshold (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12); and responsively decreasing the amount of bandwidth allocated to the mobile station for transmitting the communication traffic from the base station to the mobile station (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12).

Regarding claim 19, Spinar in view of Gilbert teaches all the limitations of claim 16. Spinar in view of Gilbert further teaches a method, where the wireless network is a CDMA network (see Spinar, p. 12 [0117]), and wherein responsively increasing the amount of bandwidth allocated to the mobile station comprises increasing an amount of a forward supplemental channel allocated to the mobile station (see Spinar paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12).

Regarding claim 20, Spinar teaches a wireless communication system comprising: a base station, having an antenna arrangement for communicating over an air interface with a plurality of subscriber units in a given coverage area (see paragraph 0044, lines 1-20 and Fig. 1; where subscriber units [CPE's 110] are shown in a cell 102 which provides wireless connectivity between base station 106 and the subscriber units), wherein the base station dynamically allocates bandwidth to the subscriber units according to a bandwidth allocation algorithm (see paragraph 0043, lines 1-14 and paragraph 0096, lines 1-13); and program logic, stored in data storage and executable on a processor (see paragraph 0045, lines 1-16), to determine that a threshold number of subscriber units are operating concurrently in the given coverage area and to responsively change the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth (see paragraph 0018, line 1 through paragraph 0019, line 25 and paragraph 0156, line 1 through paragraph 0167, line 12).

Spinar fails to explicitly teach the subscriber units are mobile stations.

In an analogous field of endeavor, Gilbert teaches an adaptive time division duplexing method and apparatus for dynamic bandwidth allocation within a wireless communication system, wherein the subscriber units are either fixed or portable units [i.e. mobile stations] (see col. 1, lines 14-17). Furthermore, it has been held that making an old device portable or movable without producing any new and unexpected result involves only routine skill in the art. ***In re Lindberg*, 93 USPQ 23 (CCPA 1952) [see MPEP 2144.04(v)]**.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spinar with Gilbert, wherein the subscriber units are mobile stations, in order to enable users of the subscriber units to seamlessly maintain a call no matter where located and to provide an added advantage of roaming between different communication networks.

Regarding claims 8 and 24, Spinar in view of Gilbert teaches all the limitations of claims 1 and 20. Spinar in view of Gilbert further teaches a system, wherein the base station uses CDMA to communicate over with air interface with the mobile stations, and wherein the mobile stations are mobile phones (see Spinar paragraph 0117, lines 28-40, paragraph 0043, lines 1-16, paragraph 0008, lines 1-11 and claims 1 & 20 rejections above).

Regarding claims 3-5, 11-13 and 21-23, Spinar in view of Gilbert teaches all the limitations of claims 1, 9 and 20. Spinar in view of Gilbert further teaches a wide range of adaptive algorithms may be constructed depending upon the particular circumstances

of the communication system to support the number of members of the defined groups (see Spinar paragraph 0159, lines 1-16 and paragraph 0161, lines 1-13).

The combination of Spinar and Gilbert fails to explicitly teach switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm. However, it would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of Spinar and Gilbert to include, switching the bandwidth allocation algorithm to a maximum-aggregate-traffic algorithm, common-data-throughput algorithm or a common-power algorithm, such that a wide range of adaptive algorithms may be utilized depending upon the particular circumstances of the number of members of the defined groups in the communication system as taught by Spinar.

6. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Spinar et al., U.S. Publication Number 2002/0080816 A1 (hereinafter Spinar)** and **Gilbert et al., U.S. Patent Number 6,016,311 (hereinafter Gilbert)**as applied to claims 1 and 9 above, and further in view of **Nee et al., U.S. Patent Number 6,876,857 (hereinafter Nee).**

Regarding claims 7 and 15, Spinar in view of Gilbert teaches all the limitations of claims 1 and 9. Spinar in view of Gilbert further teaches a method, wherein determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area (see Spinar, paragraph 0018, line 1

through paragraph 0019, line 25, paragraph 0156, lines 1-20 and paragraph 0164, line 1 through paragraph 0167, line 12).

The combination of Spinar and Gilbert fails to explicitly teach determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day.

Nee, however, teaches a method and system of efficiently allocating bandwidth within a mobile communication network, wherein a time of day information and historic usage data of mobile devices in the communication network are used to more accurately predict the available bandwidth in contiguous cells (see col. 9, lines 9-35 and Fig. 2A). According to Nee, the current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to provide a more accurate prediction of the available bandwidth at some time in the future.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Spinar and Gilbert with Nee to include a method of determining a current time of day; and using a predictive model to determine that the threshold number of mobile stations are concurrently operating in the given coverage area at the current time of day, in order that an estimation of a current bandwidth allocation for a cell together with a predicted bandwidth usage for the time when the session would be requested from that cell can be combined in a weighted fashion to

provide a more accurate prediction of the available bandwidth at some time in the future as taught by Nee.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony S. Addy
June 26, 2006

ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER